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ESTABLISHED 1872

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AMERICAN DYESTUFF REPORTER

A Weekly Publication devoted to

DYESTUFFS, COLORS and ALLIED CHEMICALS

"Circulated Everywhere Dyestuffs are Used"

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THE DYE TRADE PRESS

Some Views on the Significance of Recent German Dye Journal Literature --How to Use Your Trade Journal, and Its Part as a Factor in the Industry

WHEN an actor has a day off he straightway secures a pass and watches another Thespian perform. When a doctor finds himself with some spare time he is quite likely to go around to a clinic and watch some other doctor operate. What a bartender does while on a vacation we are not altogether certain, but will inquire into the matter at the first favorable opportunity, while the manner in which those who make, sell or use dyes employ their off hours is likewise something to speculate about.

It is safe to suppose, however, that followers of all the above mentioned lines of endeavor devote varying proportions of their leisure to looking each into his own trade literature. In these days of linotype machines and rotary printing presses, which have made reading a universal habit, it is impossible to point out a single industry which is not represented by one or more of its own trade journals or by a special department of a journal dealing with allied industries. This is as it should be.

Some there are who glance hastily through whatever magazine happens to treat of their own business, simply in a spirit of idle curiosity. Others read their trade journals as a matter of duty and, on putting the current issue down, heave a sigh of relief so deep as often to seriously threaten the elastic properties of their suspenders--and then remain serenely apathetic regarding what they have read until the arrival of the next issue, when the heartbreaking process must be repeated. But there are yet others who perform this rite weekly or monthly, as the case may be, with the genuine pleasure which comes from a deep and earnest interest in what they are working at and all that pertains to it. The contents of the publication which is designed peculiarly for their own industry is perused regularly from cover to cover, and passages are marked and passed along to other members of the company for special attention. These are the men who comprise the strongest competitors in any line. It is the "big fellows" who are oftenest caught with clippings from their trade papers sticking out of their pockets, and the larger the concern the more extensive is its library and the files of trade literature pertaining to its own business.

It has been said that there are three keys which will unlock all doors. The

first is the Law, the second Unlimited Money, and the third is the Press. For, ever since the first movable type was invented, the power of the last of these has been unquestioned, and at certain times even the other two have been known to quail before it. How many "malefactors of great wealth" have been coerced into following a course which they would rather not have pursued, through a wholesome dread of exposure and ridicule, and how many cases where a strict adherence to the letter of the law would have resulted in a manifest miscarriage of justice, have not been satisfactorily adjusted by an inattentive and impatient jury, solely through fear of the activities of old Mr. Pitiless J. Publicity?

This is true not only of the general "consumer" press, but likewise of the class or trade press. And although there are many who will argue the point, it is doubtful whether one is a whit less independent, generally speaking, than the other. But only under a truly democratic form of government (though not necessarily alone in a republic, as witness England), can a truly independent press be guaranteed.

The ideally independent publication must shine by effulgence and refulgence combined. In other words, while initiating ideas of its own for the betterment of mankind, it must also faithfully reflect the ideas and opinions of its readers. In the case of the trade publication, it must, very often, act as spokesman for the industry which it serves. The measure of its service to the industry is gauged by its ability to do these things.

The gathering together of accurate information concerning a given industrial situation is not in itself a difficult feat. The same holds true of estimating the will of the majority of an industry's personnel. It is the "follow through," the unbiased dissemination of this matter, which is all too often beset with difficulties. Fearlessness is the prime requisite. The trade paper which does not faithfully labor to follow this course does not give to its subscribers the service for which they pay, and which they are entitled to expect. As it is a foregone conclusion that a trade paper so serving an industry must rise or fall according to the fortunes of that industry, it is but a step further to argue that, assuming the continued growth of the industry which it serves, the faithful adherence to this policy on the part of its trade paper must result in the continued advancement and success of that trade paper. Despite the croakings of the "wise ones," the race is not always to the "slick." Things really work out as they should in this world more often than not.

In this country, the right of any publication to be as independent as it pleases has never been questioned. It is one of the fundamental doctrines of democracy, and incidentally one of the things which the Allies are fighting for at this very minute. Not so in Germany, for instance. There are without any doubt whatsoever many perfectly independent editors in that unhappy country. But they are all in jail. With the possible exception of Maximilian Harden, the press of that country has been in the habit of saying just about what the Kaiser wanted said. Harden has probably calculated closer just how much he could "get away with" and still avert the Jovian wrath of the All-Highest than any other. But although he has told the Germans a number of wholesome truths at various times, these achievements have called for some rare verbal agility. He has been just barely tolerated because he is adroit enough to keep inside the line, knowing that a step too far in the matter of telling the simple truth would silence him for good and all, so far as his own country was concerned.

Therefore, when the public press of Germany begins to talk of peace and call for the abdication of the Prussian Pest, it may not mean so very much after all—unless, foreseeing the true outcome of the past four years, they are growing bolder. But greater significance may be attached to the lamentations of the German trade press. Here

is a horse of another color. Never so closely watched as the newspapers, save in the matter of politics, the habit of candor is, perhaps, more a part of its mental makeup than might be expected from a hasty survey of conditions. We are inclined to think that when the German trade papers interested in the dye industry take a gloomy view of the future, it means more to us over here than the censored utterances of the daily *zeitungen*.

The general director of the Bayer company, for instance, has gone on record to the effect that, in his opinion, all is *not* well along the banks of the Rhine. He sees, in fact, hard times ahead for the German synthetic color industry, and gloweringly admits (can't you almost see his mustaches bristle as he says it!) that the capital invested in the dye industries of the countries at war with the Fatherland is now three times as great as that of the German Dye Ring's pooled interests, and that the number of Allied dye works is five times as great as those of German manufacturers. Moreover, he recognizes the fact that the numerous munition works of the Allies intend to produce dyes after the war, and opines, therefore, that the German industry will be obliged to commence with the greatest possible speed a struggle against foreign competition and to count on decreased dividends during the first years.

Contrast this with the blatant boastings of four years ago! Truth to tell, we knew long since that the German dye makers were worried by the strides of the industry in this and other countries, but we scarcely expected to hear them admit it. Let the synthetic color industry of this country take comfort. Basing our conclusion on what we have said regarding the relative accuracy of the trade presses of America and Germany, an "admission" of this sort, accompanied by talk of "decreased" dividends, may be taken as being tantamount to saying that they know mighty well that the jig is up, and that while Germany may still continue to manufacture and sell dyes, her "whole hog" days are over, her claims to omnipotence grievously punctured, and her share of the profits reduced to a point where the American manufacturer need have no fear for his markets.

The application of the above "change of tune" to the present dissertation is that a muzzled press can be of no real service to the dye or any other industry. It is as valueless as the scroll-work on a saw. By speaking thus frankly, the German trade press did more for the advancement of the dye industry in that country than it ever could have done by mincing matters and lulling the manufacturers into a false sense of their own unassailability.

In these days of intensive competition,

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the trade paper is an essential factor in an industry. It must be fearless and at the same time unprejudiced. Its judgment may at times be questioned, but its integrity never. The maintenance of its service to its industry devolves partly upon its readers, who should, for the sake of themselves as well as their trade paper, quickly and openly challenge its mistakes, thereby preventing error from existing long enough to harm either.

This is one of the duties of the reader who believes in making the proper use of his trade paper, and unless he is willing to assume it he cannot feel that he is getting as much out of it as he has a right to expect. Too much apathy for the good of the industry generally is often displayed by individuals who are not always in complete agreement with views publicly expressed, and it is the policy of the AMERICAN DYESTUFF REPORTER to encourage the giving of criticisms and advice by its readers while continuing its work for the advancement of the dye industry in this country.

ARABIA ASKS FOR DYES

In a report to the U. S. Bureau of Foreign and Domestic Commerce, Consul Addison E. Southard, Aden, Arabia, says that the Aden Port Trust returns show imports of dyestuffs under four headings, of which synthetic indigo is by far the largest. The other three headings in the order of their importance are other sorts of dyes (principally lac dye), aniline dye and saffron. In normal times the imports of all dyes into Aden average about $150,000 in value per annum.

There has been during the past two years a great shortage of dyes in the Aden market, particularly in synthetic indigo and aniline red. The principal sale for these two dyes has been in the Aden hinterland and in Arabian Red Sea Provinces. The Arab men in those districts dye all of their clothing an indigo blue when they can secure the dye, and the women demand an aniline red for use in coloring many of the garments which they wear.

German-made synthetic indigo has dominated the Aden market, and during the first two years of the war there were sufficiently large stocks of this dye on hand to prevent any real shortage. Local dealers state that just before the war this dye retailed in Aden for 1½ rupees ($0.49) per pound, but a year ago the price had gone up to 6 rupees ($1.59) per pound. There is now little, if any, obtainable.

The small amount of vegetable indigo in the market is in the shape of round balls or small cakes Before the war this article sold in the Aden market at the rate of about 10 cents per pound. It is now sold at 30 cents per pound. This dye is not, however, of great importance when the synthetic indigo is obtainable.

The dye classified in the Port Trust returns as aniline is almost entirely of a semi-dark but brilliant red in shade. As has been stated, the Bedouin women use a great deal of this in dyeing their clothing. They are just as eager to get it as the men are to get the indigo blue, and the price in the absence of competition is, therefore, of minor importance, although a consideration in establishing a permanent trade. A German-made dye supplied this demand also before the war.

Lac dye is imported from India in appreciable quantities, and is used for scarlet dyeing. This dye, however, was being replaced to some extent by German products, and the present demand may be considered as more or less temporary. As in the case of other dyes, the Arabs are the best customers for lac dye. In normal times it sold in 1-pound tins at 30 to 35 cents per tin.

The only other dyestuff of importance in the local market is saffron, which has also uses other than for dyeing. This is an orange-red color, of vegetable origin, and is imported mainly from India.

The commercial language of Aden

is English, but the dye trade is largely among natives who speak Arabic. Labels may be in either English or Arabic, but preferably in both. Tins only should be used for the dye, and the matter of colored labels is important. The currency in use here is the Indian rupee, and local importers prefer quotations either in that currency or in terms of sterling. The only local bank is a branch of the National Bank of India (Ltd.).

Consul-General Maxwell Blake, writing from Tangier, Morocco, says:

"Practically all aniline dyes imported into Morocco before the war were of German origin. As a result of the absence of paper factories or establishments for the coloring or printing of textiles or other enterprises requiring quantities of dyeing material, the importance of the trade in this article in Morocco has been extremely limited up to the present time.

"The aniline dyes imported into the country are exclusively used by the Moorish dyers of silk and woolen thread and native leather.

"The colors principally in demand are fuchsine, orange, violet, poppy color and blue. German colors were presented in the form of crystals and powder, but crystals enjoyed a much greater preference. Both crystals and powders required simply to be mixed with water. No dyes would be acceptable to the native dyers of Morocco if acids, salts or other chemicals were necessary in their preparation for use. The dyes were packed in tin boxes containing 500 grams (1.1 pounds) net each."

To manufacture and deal in dyes, colors and chemicals, the Lannefield Aniline Color Company has been incorporated under the laws of Illinois with a capital of $13,500. The head office of the new concern will be located in Chicago.

Dyestuffs and chemicals will be manufactured by the newly incorporated concern known as Industrial Pitch & Tar Products, Inc. The offices of the firm will be located in New York City and the capital is 20,000.

With an active capital of $33,000, the J. & R. Manufacturing Corporation has been incorporated under the laws of New York State to manufacture chemicals and dyestuffs. The headquarters of the firm will be established at Albany.

The Diamond Dye Works, of Columbus, Ohio, was damaged by first recently to the extent of about $8,000.

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Pointed solely toward the welfare and growth of the American Dyestuff Industry. Unbiased contributions appreciated

A. P. HOWES, Editor and Publisher

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"PASSING THE BUCK"

During the past couple of years we have heard so much criticism of American-made dyes emanating from the mouths of laymen who know little or nothing of the subject about which they preach that this question has really "got on our nerves." There is no doubt that many of the fabrics and other colored articles of commerce have been unsatisfactorily dyed—but how much of this is the fault of the dye and how much that of the dyer?

Personally, we are of the opinion that ninety per cent of the complaints can be traced to the dyehouse. There is really no good excuse for many of the makeshift dyeing processes which were indulged in by some of our textile mills. More particularly there is no excuse for the haste with which fabrics and other products were rushed through the dyehouse. Under the stress of war orders and an unprecedented demand for their products many conscienceless mills turned out anything that would pass the censor with little or no regard for the durability of its color. They felt safe that they could take refuge behind the "American dyestuff" excuse, and that a patriotic public would stand for anything so long as it was of American manufacture.

There is no longer any excuse for such tactics, and our dyestuff manufacturers should make it clear to the public at large that satisfactory colors for nearly every purpose are now available. In future, mills which try to "pass the buck" to the dyestuff manufacturer should be brought up with a round turn. It is no part of patriotism to attempt to screen slovenly dyehouse methods behind our infant industry. Our dyestuff manufacturers have had a hard row to hoe, but they have done remarkably well. If our mills will make proper use of the colors now available there should be little occasion for public criticism.

WHAT WILL PEACE MEAN?

As we go to press we are advised by wireless despatches from Berlin that the reply of the German Government to President Wilson's latest note is on its way; before this reaches our readers the reply will, no doubt, be public property.

What will be the exact nature of this document it is, of course, impossible to determine at this writing, but it seems safe to assume that whether or not it indicates an immediate disposition to surrender on Germany's part it will, nevertheless, demonstrate that the Central Empires are getting to the point where they are very nearly ready to throw up the sponge.

And this brings us to a contemplation of the probability of a more or less immediate restoration of peace to this war-weary world. What will peace mean to the dyestuff industry? This question is being asked on all sides, and the answers are very nearly as varied as the questions are numerous.

So far as we have been able to judge, the general tone of the answer is dictated primarily by the natural temperament of the one who answers. If he is by nature an optimist, he is positive that a return to conditions of peace will mean greatly increased prosperity for the dyestuff industry; if a pessimist, he sees ruin staring us in the face.

In other words, the arguments both pro and con are so reasonable that the solution of the problem depends largely on the way one looks at things. Under these circumstances we are convinced that neither extreme view is correct. Only one thing is certain—conditions will be vastly different, but our American spirit and ability are bound, ultimately, to overcome all obstacles.

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When this company made its decision to enter the Coal Tar Dyestuff Industry there were two courses of development open.

First, to manufacture an extensive line of colors by taking advantage of the intermediates that could be purchased on the market. Second, the manufacture at the outset of a more limited number of colors, but starting at the bottom with the crudes and manufacturing in our own plants the intermediates required.

The adoption of the first policy would have enabled us to put on the market at an early date a large line of colors which would have found ready sale at considerable profit to ourselves. The second course meant necessarily that our development would be less rapid, that the variety of colors produced at first would be less great and that return upon the increased capital it would be necessary to invest could not be expected for a considerable length of time.

We chose the latter of these two courses, because we believe that the only safe foundation for the development of a self-contained American color industry is the manufacture of a comprehensive line of intermediates, starting at the bottom from the crudes and on such a large scale as to make it economically sound.

Our course is of the most vital interest to the various dyestuff consuming industries, for it guarantees to them an adequate supply of dyestuffs that can never be cut off to leave them again dependent on foreign supplies.

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DU PONT

THE MANUFACTURE, USE AND NEWER DEVELOPMENTS OF THE NATURAL DYESTUFFS

By C. R. Delaney

WIDE attention was attracted by the recent dyestuff symposium held at the convention of the American Chemical Society, and in the course of this meeting, of which R. Norris Shreve was chairman, many important papers were delivered. Those interested in the production of natural dyestuffs will be interested in what Mr. Delaney, of J. S. Young & Co., Hanover, Pa., had to say in the course of the address delivered at the symposium, which was as follows:

It is a cause for particular gratification to a representative of the actual manufacturers of dyewood extracts to be asked to address such a body as this in reference to products of which one hears little in comparison to the newer artificial color industry, but which, nevertheless, has been and still is of inestimable value to the various trades for which dyestuff production is the key industry. The dyewood extract manufacturers have been so exceedingly busy for the past four years for one reason and their natural reluctance during the past fifty years to talk about their own work for another, that it seems no one has felt that he had the time to do more than roughly outline the volume and importance of the natural dyewoods, while in direct opposition to this stand, the artificial color makers—taking obviously a page out of the book of the German manufacturers whose products they are imitating—have been conducting a very violent advertising propaganda, all of which, we of course have recognized, but having been familiar with the German products of both natures, namely, anilines and advertising, the dyewood makers have simply exhibited a more or less mild curiosity when they saw the German products transferred from German sources to American ones.

We all appreciate in our work that there are very necessary uses for the artificial colors, but unlike the unthinking, we know that there is a very large use for our own. In fact, a chemical analogy will indicate what might be called our state of mind. We all appreciate the value of saccharin, the synthetic product; we appreciate what the chemist has done in producing this material so much more powerful than sugar, which for certain things it can replace, but we have yet to hear that anybody used saccharin with his buckwheat cakes—preferring the product of natures own chemist, the bee. It is the same with a great many dyers, who all appreciate the strength, the ease of use and other salient points about the artificial colors, yet, as in the case of saccharin, there seems to be something wanting, and recently I read a statement made by one of the most celebrated artificial color chemists in which he stated that all artificial blacks were judged according to their ability to compare with logwood.

It is obvious to all chemists that the explosive industry and the artificial industry are concomitant, but do you not sometimes lose sight of the fact that the tanning industry and natural dyestuff production carry the same analogy? At forty-eight hours' notice any one of our dyewood extract plants can be converted into the manufacture of tanning extracts, and while, of course, the hazards of the explosive business bringing with them the enormous profits that are generally derived from killing, have certain attractions, nevertheless, there has been a proverb since the time of the early Egyptians that "there is nothing like leather." And while on this subject it might be well to say that to this date there has been found no substitute for natural dyestuffs for the penetration of dyeing for black leather.

The prize that all of us have been striving for has been the use of our

products by the United States Government, and I rather doubt that any of the artificial color people have anywhere near the total proportion of output in Government contracts that the natural dyestuff makers enjoy. A recent questionnaire sent out to every one of the customers of our company between the period of January 1 and June 30, 1918, discloses that 72 per cent of their production of flavine was used for army business, also the following percentages of their other products: quercitron bark extract, 33 per cent; logwood extract, 80 per cent; domestic sumac extract, 42 per cent, and divi divi extract, 50 per cent. These percentages would be very greatly more were it not for the fact that another end of the industry, namely, the wall paper trade, which has always used the natural colors, owing to their cheapness and greater efficiency for their work, does not come under the heading of war necessities, and, therefore, we have been compelled to deduct the very considerable quantity they consumed from the totals.

In addition to our own country, Canada, France, England, Russia, Italy, Australian, India and Japan are using larger quantities of our products than they ever did, at least as far as our own exports show. It is unfortunate and so thoroughly representative of the conservation—to give it the mildest name—characterizing the dyewood extract manufacturers that they have never partaken of the benefits of any propaganda that would bring to the attention of the consumers of dyestuffs the advantage of the natural products over the artificial, and as a result it seems as though the manufacturer of natural dyes has been lost sight of by a very large number of those people who in reality could actually use the natural dyewood extracts for the colors that they wish to produce, instead of the foreign dyestuffs and their imitations upon which they have learned to depend.

It is hardly necessary to advise you that the Oriental rugs of several hundred years ago still retain their beauty and brilliancy of color to the present day, and if any one cares to investigate the clothing of three or four hundred years ago they would find that at the courts of France in particular there were colors of vegetable derivation used in silks and satins that would rival the most gorgeous shades of the present day. The Oriental rug will dispose permanently of the argument as to whether natural colors are fast. Of course, if any especial tests are made, such as boiling in caustic or spotting with acid, generally the natural dyestuffs, unless specially prepared, will not withstand these extraordinary and ridiculous tests, but for our part we always have thought that until clothes were boiled in acid in

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ACID YELLOW
ALIZARINE BLUE BLACK
NAPHTHOL GREEN
ALIZARINE NAVY BLUE

order to clean them that it was hardly necessary to employ such tests as indices of the quality of the dye. If they will stand the exposure to the air and rain and sun, and will not run or bleed into surrounding fibers, we believe that they have fulfilled their destiny, and it has always been the aim of the natural dyestuff maker to produce—shall we say—honey rather than saccharin.

Possibly you may have seen in the various trade journals a rather surprising statement to the effect that prior to the war 60 per cent of all of the concentrated yellow dyestuff that we manufacture under the registered trademark name of flavine was exported to two very large artificial dyestuff manufacturers in Germany and Switzerland. In fact, had it not been for the business that we enjoyed through them it is probable that the manufacture of flavine would have been discontinued, owing to the fact that we did not appeal directly in the United States to the textile industry, as it was something that no manufacturer then could do—compete with the German manufacturers and retain his own self-respect at the same time. However, our foreign business was enough to keep that section of our plant operating, and this would indicate that some of the dyes manufactured in this country are of value to those who formerly—we were in the habit of thinking—were the leading authorities.

As far as the manufacture of dyewood extracts is concerned, it is exceedingly simple, and yet there are one or two things that have to be thought of and taken into account at the same time. Our coal-tar friends have a number of exceedingly complex reactions to look after, and they produce materials with unforgivable names. They, of course, know everything about what they are doing, but we in our business are different. We try to produce the same kind of material to-day that was produced fifty years ago, and have a hard job keeping it precisely identical, and this is where we need and use the best chemists that we can secure, in spite of the fact that when we get all through our material is known as extract and not, for instance, monosulphonodioxyanthraquinone.

To cite a homely illustration of the dyewood extract makers' art, the brewing of a pot of tea will be appropriate. The English chemists at least know that tea boiled is tea spoiled, and that in the making a diffusion process is used for not less than two minutes nor more than seven, and that the water should be between 208 and 212 deg. Fahr. in order to secure the best results, allowing it to cool down slowly. It is also found that tea is made better in earthenware vessels, which are heat retainers, than metallic ones, even though

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the metallic ones may be of such composition that they will not easily combine with the tannin present in the leaf. This is extract making on a small scale. We do not confine ourselves to a narorw temperature, but extractions of the necessary raw materials are made according to experience, which has stretched over many years at temperatures between 140 deg. Fahr. and 300 deg. Fahr. All kinds of pressures are used from below the atmosphere to 150 pounds to the inch; intermittent and continuous diffusion and percolation are alike used, depending upon the product to be produced, and you may be interested in knowing that a difference of 10 deg. in the extraction temperature of certain materials will cause a profound difference in the quality and also in the yield or amount of extract produced. An extract plant at best has always been an expensive proposition, and where the barks, leaves and fruits are used which are of seasonal gathering, the manufacturer is compelled to maintain an enormous stock of raw material. In our own plants we have not less than 25,000 tons of bark on hand to-day, none of which can be used until later on this year, and there will be no more to be had until the summer of 1919, which in turn cannot be used again until after October. We, therefore, have to carry stocks to last as long as fourteen months, which makes the amount of capital invested in these industries very great indeed.

The woods are cut in one of two manners—either by a large revolving disc, with knives placed upon the edge, and to which the logs are fed by a power feed, or else by means of the better-known wood hog, which is an exceedingly heavy piece of machinery revolving at very high speed, and to which the wood is generally fed by gravity. Instead of the cutting part of this apparatus being placed on the outside of a flat disc or wheel, it is similar to a spool or V-shaped wheel, on the inside of the V being the chipping knives, which are generally staggered. While this apparatus will cut wood more quickly than the disc, it does not chip it as well, at least this is the opinion of a number of authorities, although I must say that the authorities consulted all use the disc chipper. Some idea of the magnitude of the discs may be had when you understand that one of these discs alone is operating in the United States which weighs 35 tons. After the wood is chipped it is generally run through disintegrators, such as the Williams or Jeffries mills. You probably are familiar with both of these, but for those who may not be, these mills are simply crushing apparatus containing several score of loose heavy hammers, entirely free, excepting at one end near the center of the mill, and swing from a common central disc. The edge of these hammers moves at a speed of approximately one and one-half miles per minute, and with about 250 hp. behind them any material gets into their grasp is generally disintegrated or else the mill gives way. There have been times when through carelessness or oversight a steel

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wedge used for splitting the larger logs or a railroad spike—in the case of car bark—has gone through the mill and been hammered around inside of the cages until the edges are worn off sufficiently for it to be thrown out white hot on the floor or into the elevators which convey it to the rooms wherein the ground material is generally held before extraction. This oftentimes is the cause of the greatly dreaded dust explosions which have wrecked several extract plants. After the material has been properly prepared—and in passing it might be stated that the size and cut of the preparation has a tremendous bearing upon the time of extraction, which again has bearing upon the quality produced—it is conveyed by the necessary automatic machinery to either autoclaves or wooden extractors. The autoclaves are either of steel or steel lined with tile, copper or bronze. We generally use the copper ones, bronze fitted. These autoclaves take a charge of from one to three tons, according to the size, and are fitted with lines for water, liquor, live and exhaust steam, compressed air and vacuum, so that they can be used for any type of extract that it is desired to produce. The open extractors are generally made of wood, and hold from six to twelve tons at a charge, but owing to the difficulty of controlling the oxidation, always present when liquids containing tannin are exposed in thin solution to the atmosphere, these large tubs have been superseded in the modern works by autoclaves, although for certain purposes they are still largely used. After the material is exhausted by the necessary solvents, the head liquors are concentrated, generally in vacuo, although occasionally they are partly evaporated in plenum. There are, of course, variants of this, as, for instance, in the making of powdered extract, sometimes the thin liquors are concentrated in vacuo and then finished in the open, and vice versa, depending altogether upon the material which is to be produced. There is a multiplicity of apparatus for the finishing of these extracts, and it seems to me that the principal difference is that one costs more than the other. So far as to the manufacture.

The uses are various. Silk, wool, cotton, leather, paper, all draw upon the natural dyewood extract maker, but I believe that their best use is for wool, silk, leather and wall paper lake. They seem to be particularly fitted by nature for these purposes, and generally nature knows what she is doing. There never has been any really satisfactory substitute for the black which is produced on leather by logwood, and the very best black silks and broadcloths are always dyed with this particular product, and as to wall paper, even in Germany the wall paper manufacturers used to prefer quercitron to the color lakes that were made by the artificial color makers in Germany. It may be that our product sold over there so well because the artificial color makers did not use the same brand of persuasive art upon their own people that they did upon our dyers here before the war.

PARAPHENYLENEDIAMINE BASE
FUCHSINE CRYSTALS
METHYLENE BLUE
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Sales Office: 38 Water St., New York Factory: Brooklyn, N. Y.

There has always been one very great advantage that the artificial color possessed over the natural colors, and that is their ease of application. With anilines an operator took a certain amount of material that he wished to dye and placed it in a vessel containing the diluted dyestuff with a little salt or sulphuric acid, turned on the steam, and in an hour the whole operation was finished. With the natural dyestuffs it was different. First of all, the goods had to be soaked in some material that had an affinity for the dyestuff, the so-called mordant, and after this they were placed in the dyestuff and turned around or worked, as the expression is, until the requisite color developed. This required two operations—first, the mordanting and then the dyeing, and twice the time; and although our business was increasing in the United States for the natural dyewoods before the war, until in the early part of 1914 we made and sold more dyewood extracts than we ever had done for any similar period since 1869, nevertheless we could not get over this seemingly insurmountable obstacle to the general employment of our production until the fall of 1917.

It has been taken for granted by the dyewood extract chemists that the following conditions obtain: First, that alizarine is artificial madder; that natural madder is a dyewood extract, or, if you prefer it, a vegetable product. If alizarine can be made so that it will no longer be a mordant color, it is obvious that the vegetable product madder can also be made so as no longer to be a mordant color, and if the madder plant stands as a generic type of all of the dyewoods, then by treatment similar to that which the artificial colors receive it might be possible to product dyewood extracts that would no longer require mordanting in a separate bath in order to fasten on to the fiber.

On November 22, 1917, our company took out patents upon single bath dyewood extracts made from vegetable dyewoods, and there are some dyed swatches of wool and here one of mixed wool and cotton dyed simply by taking a certain quantity of the dyestuff, dissolving it in water, placing the fiber to be dyed in the bath and treating it exactly similar to the artificial dyestuff. This has removed the one point of superiority possessed by so many of the artificial colors, and we believe now that the natural dyewood industry will de-

We urge that the Textile Industry support the stand of the American Dyestuff Reporter for an American Dyestuff Industry.

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FRED WETZEL & CO. N.Y.

In hoc signo vincimus

DYE EXCHANGE CORPORATION

CLEARING HOUSE FOR COLORS

141 BROADWAY NEW YORK

velop along its just and proper lines. Too long have we been content with producing exactly what we produced before, and too long also have we been content to let some interested party say that ours was indeed a veritable dyeing industry, in the sense that it was partly moribund and that there was no hope for us. To-day, when we are operating at what we consider normal capacity for the looms and dye houses in this country, there are required not less than 150,000 tons of logwood and 50,000 tons of quercitron bark to produce the dyes that are being used for the dyeing of black, blue and yellow, and in proportion to the amount of looms engaged in 1918, and those being engaged on similar production in 1914, there is actually a little less proportionate use of dyewood extracts than there was in 1914, owing to the difficulty in securing supplies from foreign ports due to the shipping situation, and this has compelled some of the dyers to cut down the quantity of logwood that they are using and substitute some of the artificial colors instead.

Just one thing more, and that is in the various medical journals there have been some statements appearing recently covering the use of flavine in gunshot wounds. This has appeared in *Chemical Extracts, American Medicine* and *The Lancet,* and inasmuch as my company is the only manufacturer of flavine, which is a trade-marked registered name for the concentrated yellow dyestuff made by us from the inner bark of the black oak, I have done all in my power to bring to the attention of those interested that flavine has no therapeutic action whatsoever. The material spoken of incorrectly and wrongfully called flavine is one of the acridine derivatives used for dyeing yellow made, I believe, by the Bayer company, and with their usual disregard for any hampering conventions they have seen fit to take the name of the best yellow dyestuff they knew, namely, flavine, and label their infernal acridine derivative with it, and I take this opportunity of drawing attention to this newer use of a natural dyestuff, namely, the labeling of an artificial color with a name that does not belong to it.

NOTES OF THE TRADE

To provide for business extensions, the Ajax Aniline Works, 184 North Eighth Street, Brooklyn, N. Y., has increased its capitalization from $15,000 to $37,500, according to a recent announcement. The firm is engaged in the manufacture of dyestuffs.

At an estimated cost of $8,500, the Amalgamated Dyestuffs & Chemical Works, Plum Point Lane, Newark, N. J., will erect a new one-story, 50 x 90, building, according to plans prepared for the company.

Notice of authorization to operate at Garfield, N. J., has ben filed by the Metro Color & Chemical Works, of New York. Joseph J. Darvin, Midland Avenue, Garfield, will be the local representative of the firm.

Work will be started within a month on the installation of new machinery for the manufacture of acids and dyes in a plant recently leased at Rowayton, Conn., by the Aniline Chemical Company, of New York.

With a capital of $10,000, the Johnson Coal-Tar Products Company has been incorporated under the laws of New York by A. M. and R. J. Jordan and C. C. Reeve, 4022 Ferris Street, Brooklyn.

The Electro Chemical Products Corporation has been incorporated with a capital of $15,000 at Bayonne, N. J., to deal in dyewoods and general chemicals.

KUTTROFF, PICKHARDT & CO.

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The application of the dyestuff to textiles is as much an art as the production of the dyestuff.

Dyeing is a chemical, not a mechanical process. An intimate knowledge of the possibilities of every dyestuff is often necessary to meet the particular requirements of the consumer, and the variation of local conditions, due to differences in the quality of water, steam and chemicals, makes the dyehouse problem an individual one.

Because of this individual factor the technique of the application of dyes commands today, as it has done in the past, the best talent among those distributers who cater to the highest class of trade.

The technical department of this Company is manned by chemists who have been picked because of their expert knowledge, practical experience, and demonstrated ability. Well-equipped laboratories are maintained at our different offices, for the service of our customers.

You are invited to submit your problems. Your questions are welcome. Our advice in answer involves no obligation on your part.

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Incorporated

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